IN THE CLAIMS:

Claims 4 - 5, 15 - 16, 24 - 25, and 30 - 31 have been cancelled.

Claims 1 - 5 (cancelled).

6. (previously presented) A method for monitoring network health, comprising:

receiving a heartbeat signal from a distributed agent located in a segment of a network;

determining the health of the segment of the network based on a deviation of the heartbeat signal from a baseline pattern;

logging the health of the segment into a recorded health history; and

estimating a future time at which the health of the segment becomes unacceptable based on a trend detected from the recorded health history.

7. (previously presented) The method according to claim 6, wherein receiving the heartbeat signal includes:

listening to the distributed agent; and

intercepting the heartbeat signal when the distributed agent sends the heartbeat signal.

8. (previously presented) A method for monitoring network health, comprising:

receiving a heartbeat signal from a distributed agent located in a segment of a network;

identifying the segment of the network based on the received heartbeat signal;

extracting content from the heartbeat signal;

retrieving a baseline pattern;

analyzing the deviation between the heartbeat signal and the baseline pattern;

verifying the health of the segment of the network based on the deviation; and

updating the baseline pattern by incorporating the content of the heartbeat signal if the segment health is good.

Claim 9 (cancelled).

10. (previously presented) A system, comprising:

a plurality sets of agents distributed in a network for sending heartbeat signals, wherein each set of agents is located within a segment of the network;

a network health monitoring mechanism for monitoring the health of different segments of the network based on a deviation between the heartbeat signals, received from the agents located in the segments, and one or more baseline patterns representing a normal health of the network, wherein the health of different segments are logged into a recorded health history and the network health monitoring mechanism estimates a future at time at which the health of one of the segments becomes unacceptable based on a trend detected from the recorded health history.

11. (previously presented) The system according to claim 10, wherein each of the agents includes:

a heartbeat signal generator for generating a heartbeat signal containing content specified by a pre-determined configuration;

a timer for controlling the timing of transmitting the heartbeat signal; and

a heartbeat transmitter for transmitting the heartbeat signal according to the timing specified by the timer.

12. (previously presented) The system according to claim 11, further including:

a configuration mechanism for performing the pre-determined configuration and

for setting up the timer.

13. (previously presented) The system according to claim 10, wherein the network health monitoring mechanism includes:

a heartbeat listener for listening to the plurality sets of agents and for receiving a heartbeat signal from a distributed agent located in a segment of the network; and

a heartbeat analysis mechanism for determining the health of the segment of the network based on the deviation of the heartbeat signal from the one or more baseline patterns.

14. (previously presented) The system according to claim 13, further including:

a network health reporting mechanism for reporting and recording the information related to the health of the network.

Claims 15 - 16 (cancelled).

17. (previously presented) A network health monitoring mechanism, comprising:

a heartbeat listener for listening to a plurality sets of agents, distributed in at least one segment of a network, and for receiving a heartbeat signal from a distributed agent located in a segment of the network;

a heartbeat analysis mechanism for determining the health of the segment of the network based on a deviation of the heartbeat signal from a baseline pattern; and

a network health record storage for receiving and storing the health of the segment,

wherein the heartbeat analysis mechanism estimates a future time at which the health of the segment becomes unacceptable based on a trend detected by analyzing

the network health record storage.

18. (original) The mechanism according to claim 17, wherein the heartbeat analysis mechanism comprises:

a heartbeat content extractor for extracting content from the heartbeat signal;

a deviation detector for detecting the deviation between the heartbeat signal and the baseline pattern; and

a network health determiner for determining the health of the segment of the network based on the deviation.

19. (previously presented) A network health monitoring mechanism, comprising:

a heartbeat listener for listening to a plurality sets of agents, distributed in at least one segment of a network, and for receiving a heartbeat signal from a distributed agent located in a segment of the network;

a network segment identifier for identifying the segment from where the heartbeat signal is received;

a baseline pattern retriever for retrieving the baseline pattern corresponding to the segment of the network;

a network health reporting mechanism for reporting and recording the information related to the health of the network; and

a baseline updating mechanism for updating the baseline pattern by incorporating the content of the heartbeat signal if the segment health is good.

Claims 20 - 25 (cancelled).

26. (previously presented) A computer-readable medium, encoded with a program for monitoring network health, the program, when executed, causing a

computer to:

receive a heartbeat signal from a distributed agent located in a segment of a network;

determine the health of the segment of the network based on a deviation of the heartbeat signal from a baseline pattern;

log the health of the segment into a recorded health history; and

estimate a future time at which the health of the segment becomes unacceptable based on a trend detected from the recorded health history.

27. (previously presented) The medium according to claim 26, wherein the receiving of the heartbeat signal includes:

listening to the distributed agent; and

intercepting the heartbeat signal when the distributed agent sends the heartbeat signal.

28. (previously presented) A computer-readable medium, encoded with a program for monitoring network health, the program, when executed, causing a computer to:

receive a heartbeat signal from a distributed agent located in a segment of a network;

identifying the segment of the network based on the received heartbeat signal;

extracting content from the heartbeat signal;

retrieving a baseline pattern;

analyzing the deviation between the heartbeat signal and the baseline pattern;

verifying the health of the segment of the network based on the deviation;

reporting the health of the segment of the network based on the result from the verifying; and

update the baseline pattern by incorporating the content of the heartbeat signal if the segment health is good.

Claims 29 - 31 (cancelled).